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consumption

CONSUMPTION.
CONSUMPTION

SOME IMPORTANT DISCOVERIES

RELATIVE TO

CONSUMPTION:

VIZ:

ITS NATURE, CAUSE, AND CURE.

WITH NOTICES OF CERTAIN DISEASES OFTEN
MISTAKEN FOR CONSUMPTION.

BY

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PREFACE.

THE following brief statement of a new, and, as I conceive, the only correct view of consumption, will, I trust, be intelligible to every reader. Should any point require explanation, pending the preparation of a larger treatise, it is at the service of any inquirer.

Perhaps it would have been well to have spoken more at large of the many diseases simulating and often mistaken for consumption, of which a list is given at page 6. Amongst these bronchitis holds the most prominent place. Very prevalent, and, as the Registrar's report shows, very fatal in itself, it frequently terminates in consumption. Cough is the most prominent and characteristic symptom of both diseases, and it also exists in many other forms. Bronchitis, both acute and chronic, is frequently a sequel and effect of epidemic influenza. To the opinions generally entertained respecting bronchitis, and the erroneous treatment of coughs, may be attributed the great mortality recorded. Having a method of treatment to recommend for influenza and bronchitis materially different to that commonly pursued, I purpose to explain it in a paper as brief as the present.

With respect to the disorders which most frequently give rise to unfounded apprehensions of consumption, I believe they will be found in complications of cough with disturbances of the liver. Diseases of the heart are often also mistaken for consumption, they too are attended with cough, but they are far more amenable to treatment than is generally supposed.

Should I be so fortunate as to direct the attention of the profession to the real causes of consumption, and to successful methods of checking the enormous mortality arising from these diseases, it will afford me great gratification.

A second edition of this little work being demanded, I have corrected some errors of the press, and added a few explanatory sentences and notes.

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CONSUMPTION.

IN the weekly return of Deaths in London, published by the REGISTRAR GENERAL for the 31st of March, 1855, it is remarked that phthisis (*i. e. consumption*) destroys more lives in England than any other disease, and that *bronchitis* is the next in fatality.

Having for many years devoted much attention to these diseases, the result of my observations and experience is a conviction that the prevailing opinions respecting their nature and origin are erroneous, and to this is mainly referrible the failure of medical treatment.

In the following pages I propose to confine myself to consumption, with the view to make known several facts to which I am entitled to give the designation discoveries, inasmuch as they present in an entirely new aspect the disease, its origin, and causes, and suggest a novel, and very valuable remedy.

In order fully to explain the theory of consumption, and to exhibit the evidence for the success of the plan of treatment I recommend, a treatise of some magnitude would be required. Accordingly I am preparing a work, entering into scientific and literary details, and relating many cases, but as its publication may be delayed, I venture in consideration of the importance of the subject to the cause of humanity, to depart from the conventional course, and to state, as briefly as possible, in an intelligible and popular form, the general results of my inquiries and practice apart from the necessary illustrations and the proofs upon which they are based.

One preliminary remark is necessary, namely, that

common as consumption is, a great number of cases bearing only a general resemblance to the disease, are mistaken for it; these for the most part, are curable by simple means, and in this fact lies the prevailing fallacy of persons having been cured of consumption by remedies fashionable for a time, but found after long and sad experience to be wholly inefficient and worthless in the treatment of the real malady.

A full description of the diseases commonly mistaken for consumption will be necessary to an expository treatise on the subject. I can only enumerate here the most common. These are *chronic bronchitis, heart diseases, pleurisy, suppurative inflammation of the lungs, adhesions, liver disorders, marasmus, anemia, asthma, simple debility*, especially in young females, and *indigestion*.

True consumption depends upon the formation of a substance in the lungs, called *tubercle*. All the symptoms or signs of consumption spring from this one primary cause. The hectic fever, cough, wasting of the body, night sweats, expectoration, and the final result, death, all arise from the *lungs* (organs essential to life for breathing) being first choked up by this foreign matter, and afterwards ulcerated, or broken into open sores, or cavities by its agency.

What is tubercle? How is it formed? To what causes is it to be attributed? How comes it in the lungs? How is its presence there to be ascertained in time to remedy it?

These are questions, for satisfactory answers to which hundreds of treatises on the subject may be consulted in vain.

In order to understand the answers I have to offer, it must first be observed, that all the known causes producing consumption, have one common circumstance belonging to them.

These causes as they are enumerated by the best writers, are

1. Unwholesome food, and improper feeding.
2. Fevers, and other diseases inducing weakness.
3. Inflammations.
4. Skin diseases.
5. Repeated attacks of bronchitis or influenza.
6. Dust, particularly particles of metal, stone, or glass, passing into the air-passages in breathing.
7. Effused blood from small vessels broken in coughing, or by other violence.
8. Pus, or matter formed in the air-passages, or in abscesses in other parts, where it cannot readily escape, as in *fistula in ano*, air having excess to the cavities.
9. Scrofula.
10. Boils and carbuncles.
11. Diabetes, a disease arising from the formation of sugar in the system.

All these causes of consumption have this common factor, a portion of albuminous* matter passes into a state of incipient decay, and floating in the system through the vessels, is thus conveyed into the lungs, or it is formed primarily in the air passages, and reaches the lungs directly. This decaying albuminous matter is a true *leaven*, or ferment. How does it act in the lungs?

It had escaped the notice of physiologists, so far as I know, until I pointed out the fact several years ago, that there is spread throughout the structure of the lungs, in health, a film of soluble albumen not discoverable by the

* *Albumen* is a substance which enters into the composition of almost every part of the body. It is found in the blood, in the solid parts, membranes, &c. White of egg is pure albumen. Every one knows how this becomes hardened when dropped into boiling water. Many chemical agents also render albumen solid. It dissolves in cold water, but not in boiling water.

microscope, which may be washed out by treating a portion of healthy lung with cold water. Simple as this fact appears, it is of paramount importance in relation to consumption.

Upon this soluble albumen the ferment acts just as ferments act out of the body. It sets up a chemical change in the albumen and produces tubercle.

Need I dwell upon the action of ferments to make this comprehensible. Everybody conversant with Scripture ought to know the meaning of a *leaven*, there used as a figure. Yeast is a leaven; a piece of dead animal membrane acts as a leaven. Wine, beer, spirits, vinegar &c., are produced by the action of leavens upon the starch of grains.* Dead blood is a powerful leaven.

Well then, this decaying albuminous matter, this consumptive leaven is the first link in the chain of circumstances inducing consumption; the formation of *tubercle* by its action on the albumen in the lungs is the second link. Pathologists who have relied on the dissecting knife and the microscope, have been greatly puzzled to account for the presence of tubercle in the lungs, how it gets there, &c. The simple explanation now given will be found conclusive to every one who will carefully consider and examine it.

But besides *tubercle*, the lungs of consumptive persons are always loaded with fat—unhealthy fat. This important fact I also formerly published. In health the structure of the lungs contains about 5 per cent. of fat. In the lungs of persons who have died of consumption, there is generally from 40 to 50 per cent.

* There is a small portion of albumen in barley; when this grain is exposed to heat and moisture, this albumen undergoes a change and becomes a ferment, called *diastase*, it then acts on the starch of the grain and converts it into sugar, this is the well known process *malting*.

This fat is produced also by the action of the consumptive leaven acting on certain materials in the patient's food. Fat is produced out of the body in the process of fermentation (as this species of decay or change of which we are speaking is called). If we mix a little flour with water, add yeast, and a small piece of cheese, and a little soda, let the whole stand a few hours in a warm place, we shall have a fatty acid formed in abundance. Consumptive persons generally have an accumulation of fat in the liver.

This explains an observation published by the physicians of the Brompton Hospital, that cod liver oil seems, in some cases, to do good, whilst in a large number it hastens the fatal termination of the disease. Cod liver oil, now or lately the fashionable remedy for consumption, is useful in certain pseudo-consumptive disorders, but is mischievous in a true tubercular consumption. Let it be borne in mind that no diminution of numbers in the Registrar-General's lists has been effected by the almost universal employment of cod liver oil.

Tubercle, the morbid matter, the root of consumption, is at first formed only in minute grains, sprinkled more or less thickly through parts of the lungs, but while the general cause of their formation continues to operate, they increase in quantity, and bulk, crowd and press on parts, and produce ulceration, as any other foreign substance would do. The air taken in by breathing finds access to the tubercles, and they go on to another change, or stage of decay, and by propagating the action as a ferment, rapidly increase until the albumen first around the ulcerated spot, and afterwards of large patches of the lungs, are converted into tubercle. After death we find tubercles in all stages spread through large areas of the lungs, and cavities produced by ulceration and suppuration. The

extent of these changes, necessary to extinguish life, varies in different individuals.

Readers of works on consumption will find in these facts explanations of numerous observations which the writers pronounce inexplicable.

In the words decay, fermentation, putrefaction, we have no vague unmeaning terms, but true scientific expressions; the laws, and results of the actions so designated being well ascertained by organic chemistry.

The chemical analysis of tubercle, revealing its component parts and nature, supports all my conclusions.*

We now come to the question.—If so many disorders are apt to be mistaken for consumption, how are we to discriminate them? How are we to detect the existence of tubercle in the earliest stages?

Medical men employ an instrument to sound the lungs; known as the stethoscope,—or they listen to the sounds produced by gently rapping the chest; by these means much can be ascertained respecting the physical and mechanical condition of the lungs, but they fail to detect the existence of tubercles. He who pronounces the existence of tubercles on such data, merely makes a *guess*. How often do we hear the opinion given, after a stethoscopic examination, “the lungs are weak, but are not diseased,” and presently find the patient sinking under consumption.

LAENNEC, the great authority referred to on the use of the stethoscope, candidly states, “when the tubercles are small, however numerous they may be, auscultation (the use of the ear and stethoscope) affords no indication of their presence, if the pulmonary tissue in the intervals between them is otherwise healthy. I have often heard

* Tubercle has been called altered albumen; it is no more so than sugar is altered starch. In fact, it is a new product of fermentation, or decay, quite different in its chemical composition to albumen and equally different in its properties.

the respiration, performed on both sides, with equal force and clearness, in individuals who, on dissection, presented one lung either healthy or containing merely a few small tubercles, whilst the other was filled with tumors of the same nature, varying in size from a millet-seed to that of a filbert, and in such numbers as to double at least the weight of the lung."

This testimony I hold to be conclusive against placing any reliance upon the stethoscope for detecting the earlier stages of consumption. How then, it may be asked, is this to be done? My answer is, by a chemical examination of the secretions,—the expectorated matter—the expired air,—the perspiration, and the urine,—the indications exhibited by the secretions, from which we may infer the existence of tubercle, belong to a professional exposition of the subject, and to dwell upon it in this brief paper would be out of place.*

Hence, after ascertaining the existence of tubercle in the lungs of a patient, the next inquiry is, what form of animal ferment has found its way into the system? In other words, what are the antecedents to which the first production of the tubercles must be referred? And the primary indication is to check and remove it.

The results of my experience lead me to believe that all the causes, above enumerated, come under four heads.

1st. Those which by debilitating the system generally, lead to the natural changes in the food and materials of the body becoming superseded by a process of decay, converting albuminous matter into a ferment, and saccharine, and amylaceous† principles into unhealthy fat,

* See notes at the end.

† Amylum—starch. In some form starch forms the great bulk of ordinary food. Thus, bread contains 90 per cent. Arrow-root is pure starch. The potato is principally starch. The various kinds of

which is deposited in internal parts, ex. gr. the liver and lungs.

2nd. Those where *pus* is formed, either close to, or remote from the lungs, and purulent matter is often associated with decaying albumen capable of acting as a ferment. Minute particles of metal or dust sticking in the membrane lining the passages, and causing irritation and suppuration. Fistula, Scrofula, Carbuncles, Boils, Skin diseases.

3rd. Cough, colds, catarrh, influenza, bronchitis, diseases of the mucous membrane of the air passages, which becomes inflamed and ulcerated, and permits the albumen diffused throughout the lungs to exude, and thus to come into contact with the air.

4th. Effused blood.

Having arrived at these conclusions, my next step has been to seek a satisfactory method of treatment.

There is a class of remedies, designated *antiseptics*, that is, agents which *arrest* decay, fermentation, and putrefaction; and it might be thought, after what I have stated, that *any* of these ought to cure consumption. But chemistry has made known to us the fact that substances which stop one kind of decay in animal matters fail to do so in others. Thus mineral acids check the putrefaction of blood, but not of animal membrane. Moreover, we have to do, in consumption, with the living body, and with, as I have shown, a variety of circumstances. It will probably occur to the medical reader that several remedies of the class *antiseptics* have been extolled in consumption. Creosote, tar water, mineral acids, charcoal, common table salt,—with respect to these remedies, and many others of

starch, and sugar, and some principles nearly resembling them in chemical composition, and properties, have the same uses in the economy of life. They serve to maintain the genial warmth known as animal heat.

a different kind, at various times extolled for curing consumption, such as digitalis, iodine, chlorine, cod liver oil, change of climate, we may say of all as LOUIS says of one, "The authors took, if not always, at least almost always, some affection of another kind for true consumption."*

Many of the various conditions of the system in which the consumptive ferment is formed, are characterized by considerable debility, often accompanied by cough, and such states may, and I doubt not have sometimes been cured by such remedies as the above, particularly those denominated antiseptics. But when tubercle is forming and formed, they fail to arrest the process.

The first item of treatment is to stop the production of the consumptive ferment. This is to be done by various means, in accordance with the general heads under which the causes are arranged above. I cannot go into this matter minutely, but in general it must be observed that an invigorating diet and regimen, tonic medicines, quinine, iron, mineral acids, and the like, adapted to the case, are to be recommended.

The cough which almost always accompanies the disease, must be treated by soothing means, to the entire exclusion of syrups, sugar, honey, and the like, so generally used as palliatives, as these substances assist to maintain the morbid action, and hasten the production of tubercle.†

The patient's diet must be the most nutritive that the stomach will bear, but arranged to the entire exclusion of sugar, with as little free starch as possible, and particularly of bread made with yeast. The great remedy upon which, after much experience of its effects, I rely to arrest the

* Such reputed cures of consumption as are referred to the climate of Madeira, Nice, and some other fashionable resorts, belong to this category. I believe no case of true consumption was ever so cured.

† See note at the end.

formation of tubercle, is the arseniate of soda, the mildest and most manageable form of this active agent. It should be administered in such a manner as just to tinge the system, and this may be done securely and safely, inasmuch as the symptoms of its action are definite, and immediately become obvious. We have not in the whole list of our *Materia Medica* a safer or more manageable remedy, and I have had sufficient experience to recommend it to the adoption of the profession. But I respectfully warn every one who would make trial of it to satisfy themselves of the exact nature of the case, to be sure it is tubercular consumption they are treating, before pronouncing for or against it. All cases of tubercular consumption require to be carefully watched, and brought under the influence of this remedy several times at intervals, and the result will, I feel confident, justify my assertion of its being the most powerful, if not the only means of arresting tubercle.

Let it, however, be distinctly understood, that I do not mean to assert that this remedy is to be used to the exclusion of all others for the accompaniments and consequences of tubercle. It strikes, indeed, at the root and origin of the disease. But when patients first present themselves for treatment with ulcerations and cavities of the lungs, or with considerable irritation or inflammation of the air passages and a harassing cough, &c., in such cases we have effects to deal with requiring adjuncts to the main remedy which must be adapted to the special case before us. Into this part of the subject I cannot enter in this brief paper.

It only remains for me to add that I was led to the use of the remedy I recommend for consumption by the consideration of its chemical and physiological properties, and that at present I have found only one author who has even hinted at its use.

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NOTES.

A.

Page 9.—The importance of a chemical investigation (analysis) of the secretions, for the detection of consumption and for distinguishing it from cases simulating it, cannot be over estimated. Vast as is the number of persons who actually die of this disease, they are far outnumbered by those who, at some period of their lives, suffer from the apprehension of it. A careful analysis of the secretions enables us to pronounce positively its presence or absence, and thus the anxiety of mind of patients and their friends may be often at once dispelled.

But when the existence of tubercle is detected in its early stage, it may be, as I have shown, effectually arrested. It greatly enhances the value of the chemical method of research that it is applicable at the first dawn of the disease.

B.

To illustrate the difference between mere physical and chemical methods of investigating the disease before us, I would remark that the usual practice of writers on consumption is to describe the expectorated matter as consisting of *mucus* (the natural secretion of the mucous membrane), or *pus*. The latter was at one time considered as indicative of the existence of ulceration, or cavities, but more recently it has been admitted that pus may proceed from the surface of the membrane; its presence, therefore, proves nothing as to ulceration, or cavities. Not one of many hundreds of writers on consumption whom I have consulted, make any mention of *albumen* in the expectoration. But contenting themselves with observing whether the matter expectorated floats, or sinks in water, and being satisfied whether pus is present, or not, they observe that "no one can rely on the appearance of the expectoration in forming an opinion as to the nature of the pulmonary affection whence it proceeds." In fact, when no pus is present, and the expectoration floats on water, if we allow it to remain in the water a short time, filter it, and boil the clear filtrate, in a test tube, or beaker, the presence of a large proportion of albumen often becomes at once manifest,—since albumen coagulates and separates. Albumen is soluble in cold but not in boiling water, just like white of egg; the presence, or absence of this albumen in the expectoration is a *very* important indication of the nature of the pulmonary disease but, so far as I know, it is one not hitherto noticed by any Physician.

C.

No one that I am aware of, has thought of examining the expired air of patients, supposed to be consumptive, with the view to discriminate and determine the nature of the case. But I am prepared to show that it supplies us with a test almost, if not quite conclusive.

D.

From false delicacy, or the ridicule that at one time attached to the practice, the examination of the patient's urine is in this and many other diseases strangely neglected. In many obscure disorders of health, in true and pseudo-consumptive cases, in diseases commonly called nervous, in painful states when no symptom presented to the eye enables us to determine their true nature, a chemical analysis of the urine will often at once solve the mystery, and indicate the remedy for the patient's sufferings. Many products of disease in internal organs, decay and other changes, are to be found in this secretion by skilful research, and no one who values his health, or who is sufficiently rational to wish to avoid being treated at random, should neglect so important a means of ascertaining the real nature and root of his malady.

E.

When we reflect upon the frequency of coughs in our variable climate, and remember the simple remedies lozenges, syrups, emulsions, &c., displayed in every chemist's shop, and resorted to successfully in many cases, and, moreover, consider that in a certain proportion of these cases, the consumptive action soon begins, and once begun becomes aggravated and confirmed by these very same simple means and remedies, we perceive why consumption is so prevalent and so fatal.

F.

Tubercle is found in other parts of the body as well as in the lungs,—because in other parts fluid soluble albumen exists. But as the lungs are of a loose spongy texture, and all the blood of the body passes through them with great frequency, and as in breathing the atmospheric air has access every moment to every part of them, the albumen in the lungs is first itself more liable to be acted upon by the ferment described, and once tubercles there begin to change further into their positive decay, this matter is sent from the lungs through the vessels to all other parts. Hence in the last stages of consumption tubercles are found in many parts and organs.

G.

When these views shall have been generally adopted and acted upon, I trust that consumption, from being the most, will become the least fatal of diseases.

